What is claimed is:

1. A radiation image conversion panel comprising on a support at least one stimulable phosphor layer comprising a stimulable phosphor, wherein the stimulable phosphor layer is a layer of vapor-deposited stimulable phosphor having a thickness of 50 μm to 20 mm, and the support exhibits a thermal conductivity of 0.1 to 20 W/mK.

2. The radiation image conversion panel of claim 1, wherein the stimulable phosphor is represented by the following formula (1):

formula (1)

$$M^1X \cdot aM^2X' \cdot bM^3X'' : eA$$

wherein M^1 is at least one alkali metal atom selected from the group consisting of Li, Na, K, Rb and Cs; M^2 is at least one divalent metal atom selected from the group consisting of Be, Mg, Ca, Sr, Ba, Zn, Cd, Cu and Ni; M^3 is at least one trivalent metal atom selected from the group consisting of Sc, Y, La, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Al, Ga and In; X, X′ and X″ are each a halogen atom selected from the group consisting of F, Cl, Br and I; A is a metal atom selected from the group consisting of Eu, Tb, In,

Ce, Tm, Dy, Pr, Ho, Nd, Yb, Er, Gd, Lu, Sm, Y, Tl, Na, Ag, Cu and Mg; a, b and e are each

$0 \leq a < 0.5$, $0 \leq b < 0.5$ and $0 < e \leq 0.2$.

3. The radiation image conversion panel of claim 2, wherein in the formula (1), M^1 is at least one alkali metal atom selected from the group consisting of Rb and Cs.

4. The radiation image conversion panel of claim 2, wherein in the formula (1), X is a halogen atom selected from the group consisting of F, Cl and Br.

5. The radiation image conversion panel of claim 2, wherein the stimulable phosphor is represented by the following formula (2):

formula (2)

$$M^1X:eA$$

Wherein M^1, X, A and e are each the same as defined in formula (1).

6. The radiation image conversion panel of claim 1, wherein the support exhibits a glass transition temperature of 150 to 350 °C.

7. The radiation image conversion panel of claim 1, wherein the support is comprised of at least one polymeric compound.

8. The radiation image conversion panel of claim 7, wherein the polymeric compound is selected from the group consisting of polyimide, polyethylene terephthalate, paraffin, graphite and carbon fiber.

9. The radiation image conversion panel of claim 1, wherein the support is comprised of plural layers.

10. The radiation image conversion panel of claim 9, wherein the support is comprised of a polyimide layer, a carbon fiber plate layer and a polyimide layer in that order.

11. A method of preparing a radiation image conversion panel comprising on a support a stimulable phosphor layer, the method comprising:

depositing a stimulable phosphor on the support by vapor deposition to form the stimulable phosphor layer,

wherein the stimulable phosphor layer has a thickness of 50 μm to 20 mm and the support exhibits a thermal conductivity of 0.1 to 20 W/mK.

12. The method of claim 11, wherein the stimulable phosphor is represented by the following formula (1):

formula (1)

$$M^1X \cdot aM^2X' \cdot bM^3X'' : eA$$

wherein M^1 is at least one alkali metal atom selected from the group consisting of Li, Na, K, Rb and Cs; M^2 is at least one divalent metal atom selected from the group consisting of Be, Mg, Ca, Sr, Ba, Zn, Cd, Cu and Ni; M^3 is at least one trivalent metal atom selected from the group consisting of Sc, Y, La, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Al, Ga and In; X, X′ and X″ are each a halogen atom selected from the group consisting of F, Cl, Br and I; A is a metal atom selected from the group consisting of Eu, Tb, In, Ce, Tm, Dy, Pr, Ho, Nd, Yb, Er, Gd, Lu, Sm, Y, Tl, Na, Ag, Cu and Mg; a, b and e are each

$0 \leq a < 0.5$, $0 \leq b < 0.5$ and $0 < e \leq 0.2$.

13. The radiation image conversion panel of claim 12, wherein in the formula (1), M^1 is at least one alkali metal atom selected from the group consisting of Rb and Cs.

14. The radiation image conversion panel of claim 12, wherein in the formula (1), X is a halogen atom selected from the group consisting of F, Cl and Br.

15. The method of claim 12, wherein the stimulable phosphor is represented by the following formula (2):

formula (2)

$$M^1X:eA$$

wherein M^1, X, A and e are each the same as defined in formula (1).

16. The radiation image conversion panel of claim 11, wherein the support exhibits a glass transition temperature of 150 to 350 °C.

17. The radiation image conversion panel of claim 11, wherein the support is comprised of at least one polymeric compound.

18. The radiation image conversion panel of claim 17, wherein the polymeric compound is selected from the group consisting of polyimide, polyethylene terephthalate, paraffin, graphite and carbon fiber.

19. The radiation image conversion panel of claim 11, wherein the support is comprised of plural layers.

20. The radiation image conversion panel of claim 19, wherein the support is comprised of a polyimide layer, a carbon fiber plate layer and a polyimide layer in that order.